through the gum in the form of the point of a flattened cone, which is coated with enamel, and downwards towards the jaw, increasing in breadth, but not in thickness, till it is imbedded in the substance of the jaw itself. The lower portion has no enamel; the number of teeth is, as described by Dr. Roxburgh, 120.

Description of an Acid Principle prepared from the Lithic or Uric Acid. By William Prout, *M.D. Communicated by* W. H. Wollaston, *M.D. F.R.S.* Read June 11, 1818. [*Phil. Trans.* 1818, *p.* 420.]

The object of this paper is to show that the purple substance obtained by heating a mixture of the lithic and nitric acids, is a compound of ammonia with a peculiar acid principle, which the author proposes to call Purpuric Acid, a term suggested by its peculiar tendency to form red or purple compounds.

The purpuric acid is obtained by digesting pure lithic acid in dilute nitric acid, neutralizing the excess of the latter by ammonia, and evaporating till granular crystals, consisting of purpurate of ammonia, separate. The ammonia is removed by sulphuric or muriatic acid, and the purpuric acid thus obtained in a free state.

The author next points out the characters of this acid. It is very sparingly soluble in water, and insoluble in alcohol and ether. In the mineral acids, and in the alkalies, it readily dissolves. It is insoluble in dilute sulphuric, muriatic, phosphoric, oxalic, citric, and tartaric acids. When heated it neither melts nor sublimes, but becomes purple, from the production of ammonia, and then burns gradually without any particular odour. It unites with the metallic oxides; and when aided by heat, expels carbonic acid from the alkaline carbonates. It does not unite with any other acid. Upon these characters the author thinks that its properties, as an acid, are sufficiently established.

Dr. Prout then proceeds to describe its compounds with different bases, which, with few exceptions, are of a purple or reddish colour: he thinks that some of them might be used as pigments, or employed in the art of dyeing.

Astronomical Observations and Experiments, selected for the purpose of ascertaining the relative Distances of Clusters of Stars, and of investigating how far the Power of our Telescopes may be expected to reach into Space, when directed to ambiguous Celestial Objects. By Sir William Herschel, *Knt. Guelp. LL.D. F.R.S.* Read June 11, 1818. [*Phil. Trans.* 1818, *p.* 429.]

Having shown in a former paper that by an equalization of the light of stars of different brightness, their relative distances from the observer in the direction of the line in which they are seen may be ascertained, and having deduced from this equalization a method of turning the space penetrating power of a telescope into a gradually